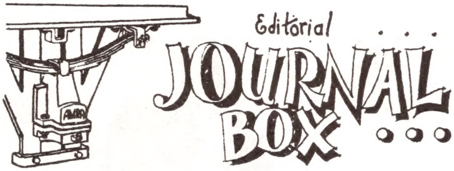

EDITORIAL

Although it may seem premature for the staff of Journal to extend Christmas greetings to its readers early in November, this is the closest we can get, with a quarterly publication, to the festive season.

It is no idle guess to suppose that thousands of train sets will change hands this Christmas, nearly all of which will serve as an introduction to the model railway hobby for some young person, and it is probably this annual infusion which ensures that fresh recruits to serious model railroading are continuously coming forward. It even has the spin-off where we get a few more dads and mums interested in the hobby.

Rex Little

10—12/80

VOLUME 29 Issue 141

CONTENTS

Page
Secretary's Desk 110
A NSWGR Starter, Part 11 111
Why "EM"? 114
Rise and Fall 115
Weighty Matters 117
Information Sheet, August 1980 118
Balance Sheet 1980 119
Who's afraid of Electronics? 120
The Aussie Way 121
Running Day at Castledare 122
W.A. Open Modelling Competition 1980 129
Pop Valve 139
Manchester to Liverpool 140

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THE SECRETARY'S DESK

Do not be too surprised with this issue of Journal, it has been brought about by sheer economic necessity. The cost of the previous style was jumping every issue until we reached the point of exceeding our income, so hence the need for a more economical issue.

On the matter of economics, we thank those interstate members who add the 10¢ per cheque to their renewal sub to cover the bank fee.

Why do we ask for the account form to be returned? After collecting the day's mail, it is sorted into State groups by checking the cancelling stamp. It is then opened and sorted alphabetically and then each account and cheque or money order is stamped with a numbering stamp, which agrees with the number on the membership card, at the same time checking that the amount of money agrees with the account. There are times when they do not. Next, we date stamp all the accounts in case of queries on delays, then in the same numerical sequence the following information is entered on to a sheet of 5 colums; No 1 is the State code, No 2 the member's initials and name, No 3 the amount received, No 5 how received, Z for cheque, M for money order, C for cash. These sheets when filled are passed on to the Treasurer along with the cheques, etc, and this helps him do his bookwork and the banking. The Registrar then makes out the new membership cards, which are in turn popped into envelopes and posted back to the members, together with anything else for member's information.

Now all the account forms are filed alphabetically in States, and at the end of October, which has allowed two months for payment of renewals, they are then checked off against the membership cards which are resorted into two groups, the financial and the unfinancial. From these cards, lists are typed, and then photocopied into 12 complete copies of each for distribution to the Sta Secretaries and various members of t C.O.M. At the end of every subsequent month a further update list is prepared and goes through the same course.

The membership cards also have to be updated, new ones typed out for new members, two off each, one of these for the Treasurer and the addressing plates also have to be kept up to date as some of our members move around in the course of their occupation.

By all these means, we are always hopeful that our records are up to date especially for Journal posting, because PLEASE NOTE, that while a Journal goes out at 12¢, it costs 50¢ to be returned if a member has moved and left no forwarding address. In future when this occurs and a member later requests missing copies to be sent on, they will have to send the postage for same, that is, 50¢ for a single copy. We hav decided on this as it appears there i no use in appealing to some people to advise the Registrar direct, if making a change of address. The Registrar and Secretary's address always appear in the Credit page of Journal.

I know some people never read Secretary's Desk, so there will be a few who will not know anything about the Registrar's procedures, it has no modelling interest. Well this person would like to be persuing some modelling interest, such as finishing a loco started 5 years or more ago, finishing carriages older than that, or making some new items of goods rolling stock, all more interesting than doing all this clerical work. Ah well a change could be around the corner.

There is a fair chance you could be reading this before Xmas, so on behalf of the C.O.M. we wish all members the compliments of the season and may all the goodies brought by Father Christmas perform well on the layout.

Norm Read
Federal Secretary

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A NSWGR STARTER:

Part 2

by R Comerford

To model a railway, we first need to know what it looks like, and the best way for most of us is via the printed medium. Photographs, plans, modelling articles are an essential item for the prospective modeller, and my first problem when I started, was not knowing what to buy, as much as not knowing what was available. I didn't know if anybody actually modelled NSW railways until I went to Sydney in 1969, although the idea had been implanted in my mind by a picture in an old book of an 'Australian Station' built by K N Lowry. Anyway times have changed and I can only tell you what I have found useful.

A.M.R.M. and A.M.R.A. Journals are the obvious ones for information, others are as follows:

PTC OF NSW ARCHIVES
Room B34 Transport House
11-31 York Street
YDNEY NSW 2000
or
GPO PO Box 29
SYDNEY NSW 2001
Telephone 02 290 4907 or 02 290 4978

Write and ask them for their list of publications.

NSW RAIL TRANSPORT MUSEUM
Box 31 PO
BURWOOD NSW 2134
Telephone 02 74 9999

Membership gets you the excellent publication ROUNDHOUSE, among other things.

NSW SCHOOLS RAILWAY CLUBS ASSOCIATION
PO Box E24
ST JAMES NSW 2000

Who produce the RAILWAY NEWS, a publication of mainly current prototype activities.

AUSTRALIAN RAILWAY HISTORICAL SOCIETY

Box E 129 P O St. James 2000

The magazine BULLETIN covers all systems.

Now a short list of useful books still in production or still generally available to my knowledge, and suggestions as to where they may possibly be obtained.

FREIGHT VEHICLES Outline drawings of freight vehicles - PTC of NSW

BOGIE BOOKLET Photos of various types of bogies and a list of freight vehicles to which fitted - PTC of NSW

MODERN LOCOMOTIVES Photos, outline drawings and data on current locos in use - PTC of NSW

LOCOMOTIVES OF AUSTRALIA and/or OBSERVERS BOOK OF STEAM LOCOMOTIVES OF AUSTRALIA Bookshops, Rail Transport Museum

STEAM LOCOMOTIVE DATA BOOK No photos but essential reference for the modeller - PTC of NSW

There is no comprehensive book on passenger cars available at the moment, although I have a copy of PASSENGER CARS OF THE NSW RAILWAYS which is unfortunately out of print.

Other books of railways in NSW that I have - some are still available and may be obtained from bookshops, hobbyshops and the Railway Societies -

some of which cover all systems are as follows:

IN PRAISE OF TRAINS IN AUSTRALIA
G MacDonald - Rigby Publications
CHASING AUSTRALIA'S LAST STEAM TRAINS
K and M Hardacre - Rigby Publications
IMPRESSIONS OF STEAM S McCarthy - Angus and Robertson
NSWGR IN STEAM R G Preston - ARHS
TENDER INTO TANK R G Preston - ARHS
ROMANCE OF AUSTRALIAN RAILWAYS
P Adam Smith - Rigby
RAILWAYS OF AUSTRALIA O S Nock - A and C Black
A CENTURY PLUS OF LOCOMOTIVES - NSWGR ARHS
FIRST STOP CENTRAL Keenan and Clark- Australian Electrical Traction Association
THE RAILWAYS OF J AND A BRAOWN
G H Eardley - ARHS
THE AUSTRALIAN BOOK OF TRAINS
J H and W D Martin - Angus and Robertson
TRANSPORTING THE BLACK DIAMOND
G H Eardley - Traction Publications
THE FIRST HUNDRED YEARS L Oberg - Traction Publications
SWANSONG OF STEAM Various - NSWRTM
LOCOMOTIVE GUIDE G H Eardley - NSWRTM
LOCOMOTIVES BEYOND RECALL
G H Eardley - NSWRTM
THE WOLGAN VALLEY RAILWAY H Deane - ARHS
THE CORRIMAL COLLIERY RAILWAY
K McCarthy - Light Railway Research Society
STEAM ON THE ILLAWARRA Various - NSWRTM
GENERATION ONE Various - ARHS
STEAM SAFARI C G Gilbertson - Zig Zag Press
TO CESSNOCK AND BEYOND B Driver - ARHS
MEMORIES OF STEAM Various - NSWRTM
ALONG THE LINE IN NSW Various - Traction Publications
THE OIL SHALE INDUSTRY Luchetti, Paridaens, Cargill - Lithgow Historical Society
THE GREAT ZIG ZAG AT LITHGOW
W A Bayley - Austrail Publication
TRANSPORT QUIZ PTC of NSW
SYDNEY SUBURBAN STEAM RAILWAYS
W A Bayley - Austrail Publication
STEAM PICTORIAL Various - NSWRTM
STEAM ALBUMS - FIRST, SECOND, THIRD DIVISIONS (THREE BOOKS) Various - NSWRTM
ILLAWARRA MOUNTAIN RAILWAY
O F Jacobsen - Illawarra Historical Society
RAILWAY HISTORY IN ILLAWARRA
C C Singleton - Illawarra Historical Society
PICTON MITTAGONG LOOP LINE RAILWAY
W A Bayley - Austrail Publication
PICTON MITTAGONG MAIN LINE RAILWAY
W A Bayley - Austrail Publication
LAPSTONE ZIG ZAG RAILWAY
W A Bayley - Austrail Publication
ALONG THE LINE, NOS 2 AND 3 (TWO BOOKS)
Various - Traction Publications
AUSTRALIAN RAILWAYS TODAY Various - Traction Publications
NSWGR BOGIES Protype Publication
RAILWAY FREIGHT WAGONS OF NSW
J G Beckhaus - SCR Publications
A GUIDE TO THE RAILWAYS OF NSW
Searail

PLANS - WHERE I FIND THEM

HO SCALE

AMRM
AMRA Journal
H G Armstrong
J MacMicking - 247 Easternvalley Way
Middle Cove NSW 2068
Data Sheets NSWRTM
PTC of NSW Archives

VARIOUS SCALES

PTC of NSW Archives - outline drawings and general arrangements

PHOTOGRAPHS

PTC of NSW Archives
Books
Magazines
Camera
Legwork

When building a vehicle, especially a rare one, a magnifying glass and some searching through the backgrounds of books and magazines can occasionally turn up the information you need, long process but life's not meant to be easy. Sometimes you find some new and interesting information this way as a bonus.

TOOLS - SOME I HAVE FOUND USEFUL AND WHERE I GET THEM

HARDWARE STORE

Stanley SM cutter, replaceable break of blade type
Two metal rules, 12" Toledo steel
4" engineers square, expensive, but worth every cent
5" vernier calipers - cheap variety
Magnifying glass
Set of jeweller's screwdrivers
Small files - flat, half round, rat-tail
Drill bits - 3 or 4 of the smallest sizes or jobbers drills
Small tack hammer
Hand drill
Side cutting pliers
Chain nose pliers
½" second cut file
Olpha P cutter for scoring styrene
Metal scriber
Junior hacksaw
Two small C clamps
45 W soldering iron, resin cored solder, flux

HOBBY SHOPS

Large razor saw

Pin vice for holding small drill bits -
3 or 4 sizes of miniature drill bits - 2 or 3 of each as they break rather easily

PHARMACIST

Scissors)	Buy good quality for both of
Tweezers)	these

MILLINERY STORE (DRESS SHOP)

Dressmaker's marker - metal wheel type.

VARIOUS

AMRA standards gauge
Kadee couple height gauge - buy this before you buy your Kadees
NMRA standards gauge if you intend to use only RP25 wheels and track built to NMRA standards, e.g. Kadee wheels and Shinohara track
Springbows for cutting circles in styrène

PAINTING AND LINING

For lettering I have used a paint brush and a pen from my drawing set using thinned Humbrol enamels and Rotring drawing ink. I find, thanks to my friend John Sever, that POLLY'S water soluble paints are much easier to work with for lettering and lining. Letraset 6 pt Helvetica Medium is even easier. MnJ decals provide a range for NSW modellers. I use Humbrol matt varnish or similar to fix the decals and Letraset.

NSW GREY (black in my book) gloss or matt black, a little white and a touch of red
WHITE - matt white
INDIAN RED (Locos) Floquil tuscan red and barrier - I have had failures with the barrier sometimes for some reason, probably my fault, but be careful
TUSCAN RED (coaches) some I have tried some I haven't, still searching for the best solution. Try the following: Berger zinc chromate primer, plus 8 Floquil tuscan red, 2 reefer orange, Humbrol crimson lake and 110 red.
BUFF (yellow) - Humbrol 69 yellow, Floquil depot buff, Humbrol interior stone
GREEN - Humbrol British Rail green
BLUE - Humbrol British Rail blue No 135

WEATHERING

Polly S weathering colours, oil pastels, ladies eye shadow

PAINT BRUSHES

Nos 4 to 000 Sable round - I find Roymac made in Japan a good compromise between price and quality.
1" flat brush for removing dust
REMEMBER, wash brushes in soap and water after cleaning in turps if you want them to last any length of time.

GLUES

M.E.K., Testors, Kibri or Plastrut, Superglue, 5 min Araldite, Selleys gel grip

PARTS

GENERAL

Styrene sheets 5, 10, 20, 30, 40, 50, 60 thou. I find I use more 10, 20, 30 thou than anything else.
Styrene rod 10, 20, 30, 40, 50 thou made by Slaters of England. I bought mine from Hobbycraft of Melbourne.
Corrugated iron (aluminium) I purchased mine from G Duncan, 18 Waratah Avenue,

Glenhuntly Vic 3163.
Aluminium drink cans and pie dishes
Tops of margarine containers provide useful pieces of styrene.
10 BA nuts and bolts
10 thou guitar wire
Lead

SPECIFIC

Wheels 10.5 mm or 36" HO-Disc or spoked. I have used Kadee, M.G.W., Jackson, Cavalcade, Lima, North Yard Hobbies, Indi enterprises. One day we will have a common wheel standard in this country, for now the closest you could come would be to use only locos with RP25 wheels and replace all rolling stock with Kadee or North Yard Hobbies' wheels.

BOGIES

P.M.H.
ROUNDHOUSE - Archbar and Bettendorf
KADEE - Archbar and Bettendorf

On these I replace the wheels with metal wheelsets. Best runners have been MGW in Roundhouse bogies, with Indi and North Yard coming a close second.

UNDERFRAMES

Here I have used a variety of methods - none is really satisfactory to my mind.
P.M.H.
Ratio 10' (00) underframes SR and GWR. One must remove part of the solebar and cut down the springs and W irons, and rejoin with M.E.K. on to the solebar at the required spacing - 10', 11'6" etc.
Plastruc 1/8" channel for the solebars and some excellent VR cast axleboxes that I bought from McBees in Melbourne.
Underframes from Lima HO British wagons with hand brake detail removed. Various detailing parts made by Protype, Sentinel, F.S.M., particularly compressors, chimneys, domes, buffers and brake gear.
HO scale ladder

Here endeth the second lesson, what the third will bring will have to remain a surprise (for us all).

****

WHY 'EM'?

by Ted Thoday

When I first started active modelling some 17 years ago, I was not aware of the finer points of the scale/gauge ratios.

In those days British models, as far as I was concerned, fitted into the 00/HO gauge definition which was used by the trade.

The British prototype mainline railways run on standard gauge track (4'8½"). British models in 4 mm scale (00) run on 3.5 mm scale track gauge (HO). Models in this scale/gauge ratio tend to look a bit like narrow gauge.

Having constructed a number of models of locomotives and rolling stock from kits, I found myself dissatisfied with the 'narrow gauge' look, so cast around for an alternative. The only alternative available in those days was 'EM' gauge. 'EM' standing for eighteen millimetre. The 'EM' Gauge Society was the only body actively involved in supporting this nearer to scale gauge.

There were difficulties in converting proprietary models and kits to EM, the main problem being the lack of sufficient clearances for the wider gauged wheels. This, thankfully, has been overcome by pressure from the Society and the co-operation of the manufacturers.

A further advantage of modelling in 'EM' was trackwork. Proprietary track was grossly overscale and pointwork was only available in set radii, usually described as 18' or 24' radius, this too was not what I was looking for. I wanted trackwork which looked more like the real thing, and which was capable of being built to suit the location, rather than the other way round.

Again the 'EM' Gauge Society could help with their track making components and gauges, etc.

'EM' gauge is now standardised on 18.2 mm gauge, and the Society has an increasing range of products available for members, some of these items have been produced by members of the Society and are only available through the Society, others are commercially available through the trade.

18.22 mm gauge is not exactly accurate for 4'8½" in 4 mm scale, but should be 18.83 mm, as used by modellers in P4/S4 gauge modelling. Why haven't I changed? I was too far committed by the time P4 first appeared and to me the difference between 18.2 mm and 18.83 mm is indiscernable without actually measuring it.

Virtually all models, both kit and ready to run which are available in the UK, can be converted to EM without any undue problems now, as the manufacturers allow for the additional clearances required.

****

RISE AND FALL

by 'Great Eastern'

Reprinted from AMRA Journal No 24 -
May 1957

He stood outside the window of the hobby shop in town. He had thought the whole thing over carefully and had come to the conclusion that he wanted to have a model railway at home. He had been interested in railways for a long time and had had quite a lot of "Hornby" '0' gauge clockwork stuff when he was a schoolboy, but this time he thought "Hornby" "Dublo" would be the thing. He reckoned he could afford to spend a bit of money on it too, but care would be needed; it was no good going home and facing the family with a cart load of model railway equipment. There would be awkward questions to answer, such as: "Weren't we going to paint the house this year, dear?" and remarks, such as: "You never told me you were going to do this when we got married!" So he decided to buy a 'Sir Nigel Gresley' loco and tender. A beautiful model, he thought, with sufficient detail to satisfy even the most fastidious rail fan, a real railway engine in miniature!

The cash changed hands, and home he went, bearing the lovely loco with him. He showed it to the family, who were rather sceptical at first: in fact, the small son, who thought it was for him, observed crushingly: "Men don't have trains". But the first mile-post had been passed. Here was a locomotive in the living room for all to see, although with no track on which to run it. Even the family could not escape the logic of that. So when an advertisement appeared in the evening paper a few days later offering, for a very reasonable amount, some scarcely used track and a Hornby 'Dublo' goods set, with transformer and controller, he lost no time in purchasing them and in getting the whole outfit into operation. Before long the system was extended by the acquisition of more equipment, both new and second hand, and everything was lovely.

But soon it became obvious that something was missing. Tin-plate track is not really very realistic;

the stations were not long enough for most of the trains: a loco shed was needed, and other accessories not in the Hornby range were required. So the second stage in the development of the 'perfect' model railway began, with a change from tin-plate to scale track. The model shop had Peco 'individualay' in stock. This is bull-head rail which is held by chairs which fit into holes pre-drilled in black fibre sleepers, the holes being so spaced that they automatically give a 16.5 mm track gauge. This fitted in well with the existing Hornby rolling stock, and before long a new and improved system had been built in three-rail, using a new and improved base board. Turn-outs and cross-overs were constructed by hand where required, using the 'Peco' track parts, and it was quite obvious that not only was the appearance of the new track greatly superior to the old, but that much more could be done with it by varying the radius of curves and turn-outs where the needs of the system demanded it; no longer were half rails and quarter rails needed to fill the gaps, because pieces of rail could be cut to any required length. Next, a bundle of 'Modelcraft' building plans and sheets of 4 mm scale brick-paper became the basis of some home made line side structures: a goods station, a coal shed, and a platelayer's hut. After that the existing stations were reconstructed to give platforms four feet long at which trains could be accommodated without having to pull up twice.

But the third stage was beginning. Tin-plate rolling stock lacks realism, and in any case the types of stock obtainable are limited. The urge to build something made to scale proportions to run on the scale track was making itself felt. Furthermore, the possibility that one day operations would be in two-rail couldn't be ignored. So, first of all, all the existing goods wagons were converted to two-rail by removing the original wheels and substituting 12 mm 'B.P.R.' plastic wheels. Next, some C.C.W. coach construction parts were obtained and blue-prints of various types of British Railways passenger stock were ordered from J E Skinley of Southend-on-Sea, England, and with these two trains, one of suburban and one of express passenger stock, were built. Very soon, using more Skinley blue-prints, a selection of goods wagons were built to British Railways specifications. It was now time to sell all the tin-plate track and rolling stock and this was done. Not only was all the rolling stock on the 'perfect' model railway now hand made; better still, types of wago and coaches were in evidence which no tin-plater was ever likely to have.

The original 'Hornby' system was now represented only by the locomotives. It was inevitable that stage four was about to begin, with the construction of a locomotive. Some more Skinley blue-prints were sent for and a tank engine was chosen. Six months work went into the job and eventually she was finished and went into service at the head of the suburban unit. Operations were still in three-rail, but all wheels were insulated so that conversion to two-rail could be made in a matter of minutes. The time for stage five, the change over to two-rail had arrived; a start was made by converting an isolated section of the layout while retaining the main lines as three-rail. Meanwhile the new tank loco was converted to two-rail to run on the two-rail section of track.

So far the story of the 'perfect' model railway had been one of steady progress; ever onward, ever forward; from tin-plate three-rail to hand built two-rail. The change over from non-scale wheels meant that check rail distances had to be altered at turn-outs, but some irregularities in the track meant that fine scale wheels were better avoided, and that all wheels were better sprung. However, there were other difficulties associated with the track; better alignment was desirable on main lines and better planning in yards; transition curves and superelevation on the curves were necessary for good running and good appearance. Stage six demanded a complete relaying of the system, using all the ideas and experience gained earlier.

The layout has already been dismantled; on the one hand lies a great stack of rail ready to put down, while on the other sits a mass of rolling stock waiting for a place to operate. The perfect model railway has yet to be built, and while he waits to start, your scribe enters stage seven, happily passing the time writing articles for the A.M.R.A. Journal.

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WEIGHTY MATTERS

BY H L HOLLAND

Reprinted from BRMNA Journal - October 1979

In these days of the plastic bodied locomotive, the problems of sufficient adhesion weight to prevent wheel slip with a heavy train is a very real one. With heavy metal bodied kits and brass chassis, such as the Cotswold, the problem is not too severe, but with lighter kits, such as the present day K's, and ready-to-run locomotives with plastic moulded bodies, something extra in the way of adhesive power is needed. 'Magnadhesion' never did work very well, and rubber tyres are all right as far as they go, but, as in the prototype the ultimate solution is to increase axle loading.

Several years ago there was little lack of adhesion weight in most commercial locomotives, although it must be admitted that since these engines were originally required to pull heavy metal bodied rolling stock, train lengths were limited until the recent advent of the lighter plastic stock. Cast metal bodies were common, and the few kits available, such as Wills and the older K's, were fairly heavy. As a case in point, I have a K's Class 5, vintage 1964, which weighs in at 2 lb; in contrast, the present day Airfix 4F 0-6-0 weighs only 13 oz, complete with box!

The adhesion weight of a locomotive with a cast metal or nickel silver body (such as the EAMES Jamieson kits) can be increased, if necessary, by the simple expedient of pouring molten lead directly into the upturned body (after removal of the chassis, of course!). This may sound a drastic, even foolhardy, process, but I have applied it to three Hornby engines with cast metal bodies, an 8F 2-8-0, an old 4-6-2 'Duchess of Montrose', a 2-6-4 tank, two Jamieson kits, a 2P 4-4-0 and an LMS compound 4-4-0. Lead melts at 327°C, and should be poured when just molten and no warmer, when it cools and solidifies immediately upon contacting the locomotive body. Under these conditions, it does not harm the body at all. The LMS 8F so treated is capable of starting a train of at least 53 wagons (all I have access to, but many of these have heavy diecast metal bodies). Scrap lead may be melted easily on the stove top in an old tin can with its lip bent for easy pouring. Have the oven extractor fan on full blast if you try this, as lead is volatile and toxic. If your stove does not have an extractor fan, then do this outdoors (over charcoal), or don't do it at all!

It goes without saying that this procedure cannot be applied to a plastic or low melting alloy bodied locomotive. In these cases, I use ¼" lead sheet cut to shape and glued to the inside of the body with 5 minute epoxy glue. The current Hornby 0-6-0T so treated is much superior to the unmodified version in hauling ability.

Some word of caution: don't be tempted to use iron or steel in place of lead, it can play havoc with the magnet of the motor. Also don't make the locomotive so heavy that, rather than the wheels slipping when overloaded, the motor burns out instead. The latter is difficult to do, but not impossible. With a little extra weight lengths are no problem for the locomotive. However, they do create problems for the operator, if only I had the space to really handle 65 wagon freights and 14 coach express passenger trains properly!

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INFORMATION SHEET; AUGUST 1980

FEDERAL MODELLING COMPETITIONS

These competitions were instituted in 1961; information regarding same and the results have appeared in Journal during the ensuing period, but we still hear that some members know little about them.

Entries were originally sent to the Federal Secretary, to be judged at 31 January each year. However, because of problems in safe packaging for transport through the mailing system, we had few interstate entries. To somewhat overcome this problem, it was decided to hold them in conjunction with the NSW Branch Exhibition held in October at the RAS Showground. It was felt that as we always have quite a number of interstate members visiting this Exhibition, they may be entrusted to bring along any entries in the various categories. Also any country members coming to the Exhibition could also bring along entries.

This year we are adding one extra category, to be known as the Ken Edwards Cup; this will be for the best assembled commercial kit locomotive. This is to overcome the confusion in the past of being entered into either scratch built or loco conversion.

The seven classifications are listed below:

TIM DUNLOP TROPHY A perpetual trophy, winner receives a smaller cup. Scratch built locomotive or rail car in working order, motor, wheels and small fittings of commercial manufacture are permissible.

FEDERAL TROPHY Also perpetual. For the conversion or alteration of any commercial model locomotive (steam electric, diesel or rail unit) from the original to a different type.

NSW BRANCH CUP Scratch built passenger stock, commercial bogies, axle boxes, wheels and couplers allowed.

KEITH WILCOX CUP Scratch built goods stock, commercial bogies, wheels, axle boxes and couplers allowed.

VICTORIAN BRANCH CUP For the conversion or modification of rolling stock, of any commercial model or model of any prototype.

KEN EDWARDS CUP For the best assembled model of any commercial locomotive kit.

CANDEMAH CUP Another perpetual cup. For any piece of lineside structure.

Entries close at midday on Saturday morning at the main information office. Photos or relevant information woul help in judging.

****

A.M.R.A.

HON. LIFE MEMBERS

up to 1980

Tim Dunlop
Margaret Dunlop
Alan Wilson
Rick Richardson
Arthur Harrold
Jack Treseder
Cedric Rolfe
Faith Dean
Ernie Dean
Norm Read
Rex Little
Maurie McKinnon
June Dunn
Stuart Westerman

AUSTRALIAN MODEL RAILWAY ASSOCIATION : FEDERAL COMMITTEE OF MANAGEMENT

STATEMENT OF RECEIPTS AND EXPENDITURE : FOR YEAR ENDED 30 JUNE 1980

RECEIPTS

Cash at bank 30 June 1979	$2023.12
Petty cash on hand 30 June 1979	180.00
New members' subscriptions	373.40
Membership renewals	3085.00
A.M.R.A. Journal subscriptions	1212.60
Joining fees	642.00
Donations	33.50
Advertising in Journal	498.60
Sale of guides	94.77
Interest	48.43
Sale of track gauges	29.00
Miscellaneous	25.33
	$8245.65

EXPENDITURE

Printing of Journal	$5328.20
Postage of Journal	613.99
Journal expenses	310.76
Stationery	275.82
General postage	488.65
Trophies and awards	79.80
Bank charges	5.00
Repairs and service to equipment	105.00
Badges	276.46
Photo copying	50.88
Insurance	29.75
Miscellaneous expenses	25.17
Cash at bank 30 June 1980	476.17
Petty cash on hand 30 June 1980	180.00
	$8245.65

STATMENT OF FUNDS AT 30 JUNE 1980

Commonwealth Trading Bank, O'Connell Street, Sydney		
Current account as above		$ 476.17
Sydney Permanent Building Society Limited		
Balance 30 June 1979	$1649.77	
Interest credited November 1979	65.99	
Interest credited May 1980	68.63	
Balance at 30 June 1980		1784.39
Petty cash on hand as above		180.00
		$2440.00

AUDITOR'S REPORT

I have examined the books and records of the Federal Committee of the Australian Model Railway Association and report that in my opinion the above statement is a true and fair record of receipts and payments during the year ended 30 June 1980 and of cash funds on hand at that date.

Signed: R W Gorrell, FCA

WHO'S AFRAID OF ELECTRONICS?

By Jim Guinane

Scared of electronics? So am I. Interested in what electronics might do for us model railway addicts? Me too.

After standing on the edge for a couple of years I recently plunged in. Not too deep of course - about up to my ankles. What most of us tentative types need is someone to give us a little shove, or someone already in there to entice us to jump in too. For me (and I give him full credit for marketing genius) it was that currently much publicised whiz kid, Dick Smith.

In a newsagents I noticed his book, 'Dick Smith's Fun Way Into Electronics' and with no great feeling of hope I picked it up, just as I have picked up dozens of other electronic books in recent times. Flipping through, I was suddenly stopped - nay, arrested - by a (lousy) representation of a steam train (pulled by a British-style 4-6-4 would you believe) going past a 'Railway Crossing' sign. It was alongside an article called 'The Flasher' which began: "You've probably seen those flashing lights on level crossings - guess what makes them work."

There were only two pages to read, as well as the normal electronic circuit diagram (which I ignored), there was an artist's simple sketch in colour showing what the components looked like, where they went and how to connect them up to a 9 volt battery. Shrewdly I delved into the instructions looking for the trap, but there were no complex electronic terms like veroboard or soldering iron, just a reference to chipboard, screws and hook-up wire. Having filled a room with a model railway layout I knew all about those. Sure, there was some silly talk about the emitter, base, collector connections of a transistor. But who cared? The artist had drawn a picture of the transistor showing where each of its three little legs was screwed to the next component. I already owned a screwdriver; and if the experts wanted to call one leg an emitter, another the collector and so on, why should I worry?

Flipping to an fro, I found another article in the book called a 'Light/Dark Indicator'. It said that in the dark it would switch on and in a bright light it would switch off. Sudden I remembered something I had read in a model railway magazine that the shadow of a train passing over a light detector in the track could turn the flashing lights on and off at a level crossing.

My own mental computer began flashing its lights at me. I looked more and began counting.....12 screws and six electronic components....one piece of chipboard and five bits of wire. Not only Blind Freddie, but even this Jim-compoop could handle that.

Such was my confidence, that I bought the book, hurried round to an electronics shop and pointed out the two devices I wanted to build. In three minutes flat they were all lined up on the counter and for something less than eight dollars (the book included) I was ready to begin my new career in electronic engineering.

Don't scoff. That night I assembled the flasher unit - and it worke The flashing rate was much too fast but the instructions indicated two ways to change that. The next night I built the light/dark indicator and on the third night came the greatest triumph of all. I managed to combine the two devices. As I covered, or uncovered, a magical little device in the circuit called a light-dependent resistor, so the flasher was turned on or turned off. It wasn't joy I experienced, it was sheer jubilation, just like the occasion ten or twelve years ago when I first managed to adapt a telephone relay to throw a set of points electrically. If you can remember some such early achievement of your own, you will understand the feeling I had.

Although at this stage my new electronic device was only a contraption on the work bench, in my mind's eye I could already see my train turning on the level crossing lights as it approached and turning off as it departed - all without touch of the human hand.

At this point I think I should leave the story, apart from assuring you that the whole enterprise has been a success. What was an exciting mental vision has become a practical reality on my layout, although it took another month of modification and development to achieve this. The main problem was that, whereas my work bench contraption happily operated one pair of flashing lights (actually they are LEDs - light-emitting diodes), on the layout I wanted it to operate three pairs. The different electrical values involved were, to my ignorant mind, quite a problem which I could solve only by the trial and error method.

The point of this article is not to conduct you all the way through my little adventure; if I did I would become the laughing stock of all those knowledgeable electrical champions in our midst! The point is simply to encourage people who have been as frightened as I was of trying to build a simple electronic circuit while knowing absolutely nothing about electronics.

If you are still unimpressed, let me point out the following:

The most costly component I had to buy was a light-dependent resistor - 75¢.

The only components I 'blew up' were three LEDs. Cost - 22¢ each. (And why? Through the sort of silly error every beginner makes in haste: I connected them with the polarities the wrong way round.) If I had been totally unintelligent and managed to blow up every component in the circuit, then I would have wasted the grand sum of $3.54! Is there a schoolboy amongst us whose dad couldn't afford that ?

Electronically I had learnt enough to wire up a medium sized layout with about a hundred turnouts all operated by PMG relays which also controlled my colour light signals. I had also installed two reversing loops so rudimentary in design that the train has to stop in the loop while the polarity is changed in order to drive the train out.

Now if you are no more advanced than that - or even if you haven't yet gone so far - there is absolutely no reason why you couldn't try such simple electronic constructions. In my eyes the satisfaction that arises when you get the thing to work is just as great as the thrill you had when you began operating your first model railway layout. Take my advice - jump in. Up at the paddlers' end where I am, the water's fine.

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THE AUSSIE WAY

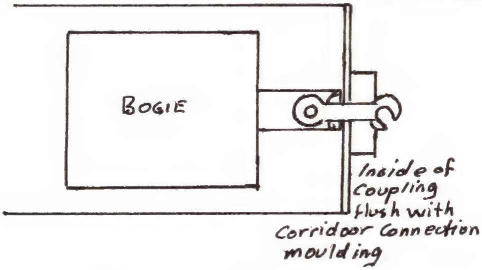
by Gus Durham

Close Coupling for a Rake of Lima Indian Pacific Coaches

This is for the intermediate coaches only, you will still need your own favourite coupler for each end vehicle. You will need 'Sentinel' dummy knuckle couplers and ¼" x 8 BA bolts and nuts.

Before removing the bogies from the coach body, mark with a razor saw and cut off the coupler arm level with the bar moulded across the bottom of the end of the coach. Now replace the bogie on the coach and place the coupler on the coupler arm and line up the coupler thus:

Mark the position of the hole in the coupler on the coupler arm, and drill a hole to suit the bolt. Take



care, as the hole to be drilled will be close to the hole mouled in the coupler arm. Bolt the coupler on to the top of the coupler arm and cut off the surplus. When looking down on top of the bogie, the coupler should have it's open side facing to the left.

Coupled this way, coaches will still negotiate 24" radius curves without trouble.

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Replacing Wheels on Lima Indian Pacific Coaches

For this you will need MGW 10.5 mm disc wheels to replace the Lima wheels. Only the wheels are used as the MGW axle is too long to fit the Lima bogie. The axle diameters are the same, don't ask me what diameter this is, but I do know the Lima and MGW axles interchange OK.

Remove the wheels from the bogie and take the wheels from the axle, this can usually be done by holding the axle in between the wheels with pliers and pull the wheels off with your fingers. If the wheels are extra tight hold the axle in a small vice and gently, repeat, gently, lever the wheels off with a screwdriver on each side of the wheel, or use the claw of a small claw hamm to gently lever the wheels off. Cautio is the key word and work with care as you could bend the axle.

Replace the MGW wheels on the Lima axle, check the back to back distance with your AMRA gauge, making sure the wheels are on the axle equal distances from the axle ends. If the wheels are a little loose, put a drop of Super Glue on inside of the wheel. When the glue has set, replace the wheelsets in the bogie.

You will have the same free rolling action of the Lima wheels, but without the large and shiny flanges.

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RUNNING DAY AT

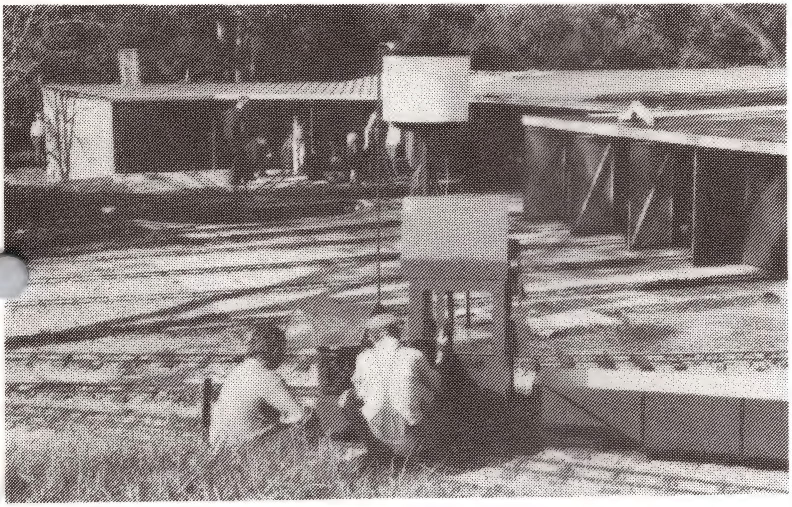
CASTLEDARE

by Arno De Smalen

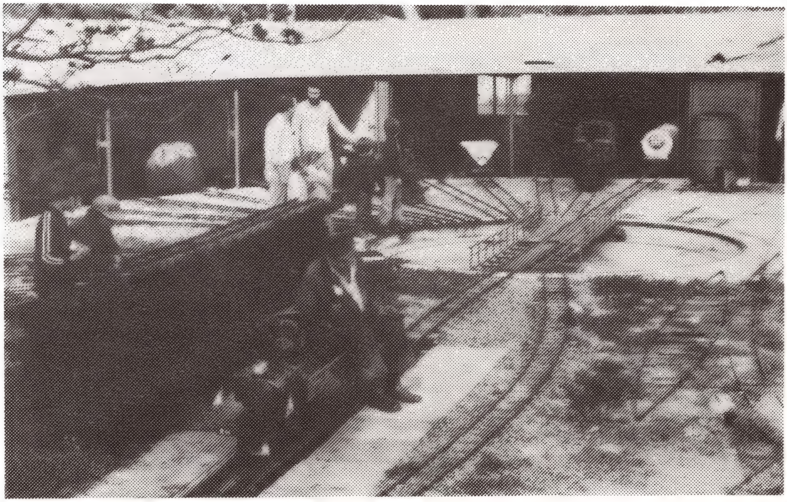
Photos by Simon Mead

It is approximately 10.00 in the morning of the first Sunday of the month and the first member with a key arrives and goes and opens the Clubroom doors and the doors of the Round House. By then someone else has arrived who goes and closes the Main Crossing Gates. It is now about 10.30 and members are really starting to arrive. Also the first steam engine has been lit and is being cleaned. By 1.00 most of the members are there and nearly all the steam engines that will be used on that running day will have been fired and polished.

At 12.00 the first train (signals train) is being shunted. The 'Signals Train' is the train the signals are stored on and from these carriages the signals are placed around the line. At about 12.15 the 'Signals Train' departs from the Motive Power Depot and Carriage Shed Area and arrives into either No 3 or No 4 Roads at Niana



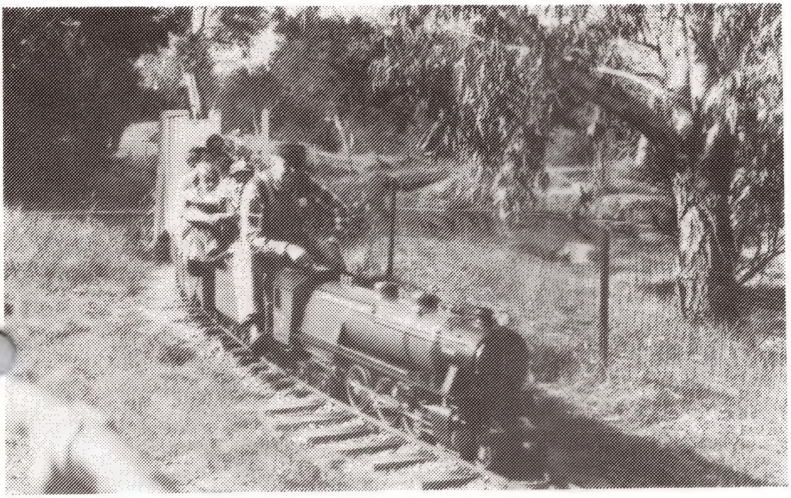
An overall view of the Carriage/Engine Shed Area. The trains are sent from here to Niana Station.



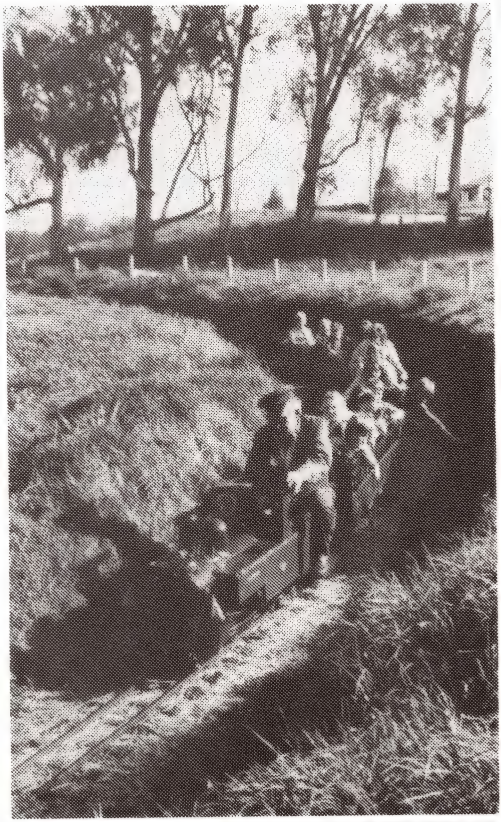
The Engine Shed Area. On the Ash Pit Road, we see Doug Skewes's W.A.G.R. 'B' class 'KARALEE'.

The north end of Niana Station. Rides around the track start here.

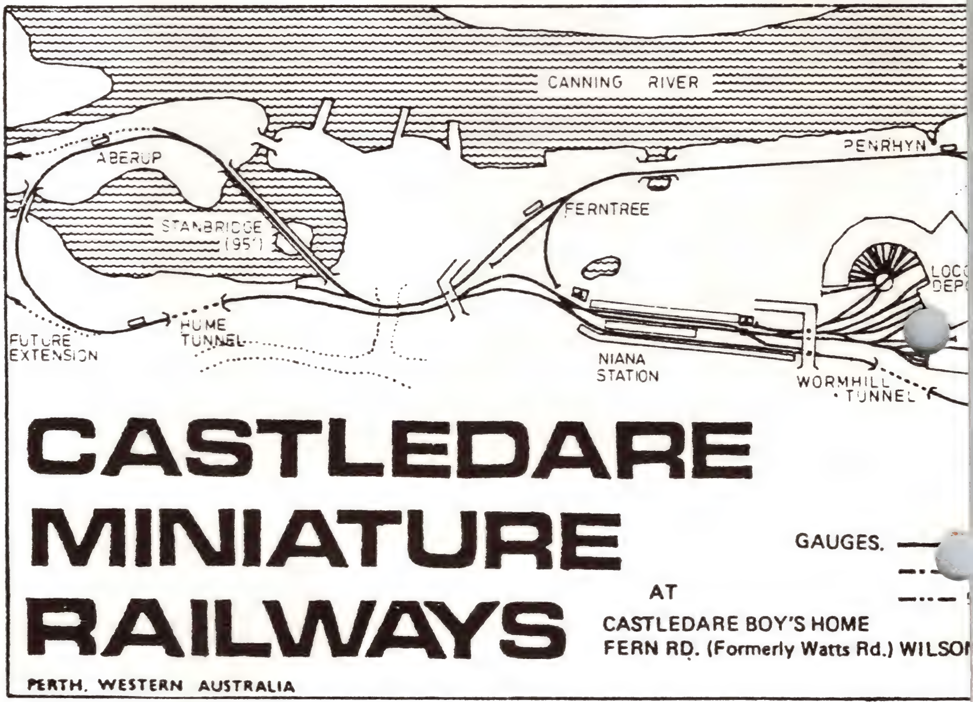
An overall view of 'Stanbridge'. Trains travelling to Canning Junction cross this bridge after passing through Hume Tunnel.



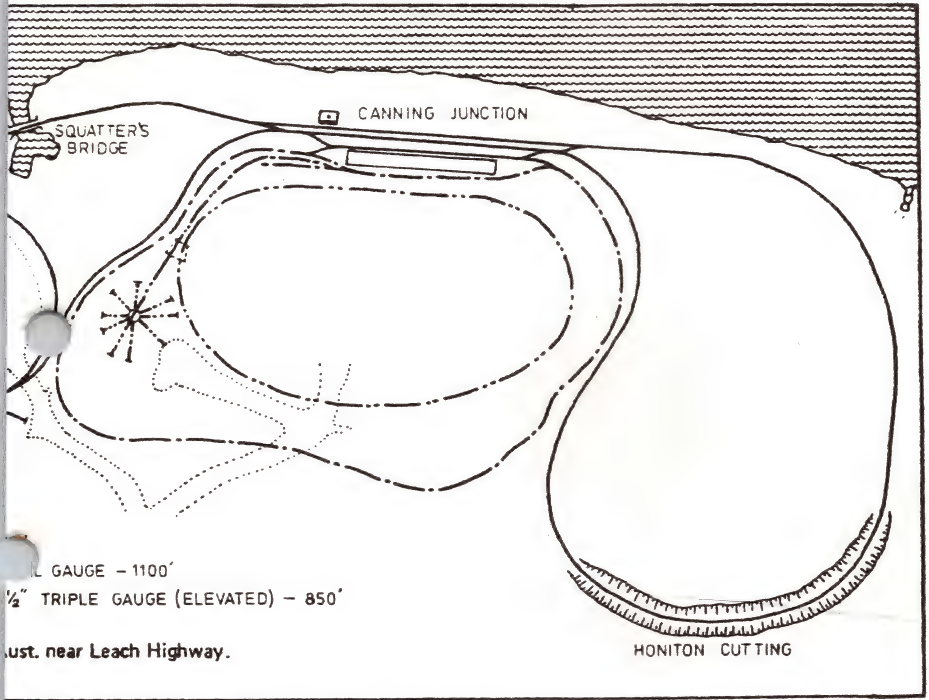
The south end of STANBRIDGE. Presently we see Reg Barltrop's 4-6-6 'ELIZABETH'.

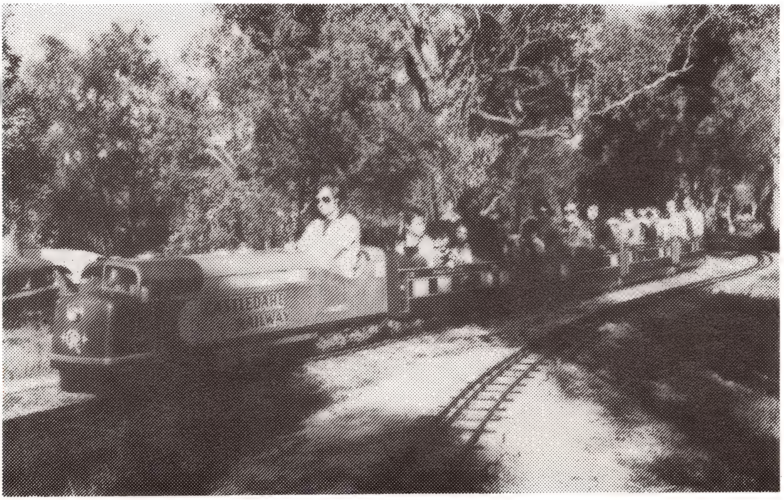


The Down Main changes to become the up Main in Honiton Cutting. In the photo we again see KARALEE. Note the passengers on the second carriage doing something very dangerous. He is sticking his arm out of the carriage and is bound to have an accident.



After Honiton Cutting we again pass through Canning Junction. In this photo we again see ELIZABETH. She is on the Up Main waiting for the signal to cahnge.





Jack Stanbridges' C Class Diesel 'Betsy'. She is on the Up Main. In the foreground we can see part of the Convention Loop.

Junction Railway Station. Box A gives 'The Signals Train' the Green Signal and then the first train is on its way. It stops at Hume Tunnel and the first signal for the Main Line is installed at its mounting. When this is finished the train proceeds to Aberup and the second Main Line Signal is installed. This is also done at Ferntree Bridge and at Penrhyn (Telephone also). At Canning Junction the 'Staffs' for the Cutting and Convention Lines are dropped off, as well as the Signals and Telephones to be used at Canning. The train then proceeds through to Honiton Cutting and back to Canning. After Canning the train proceeds to the Level Crossing. Proper working level Crossing Lights are permanently installed here. At the Level Crossing the last main line Signal and Telephone are installed. After this, the train proceeds into either No 1 or No 3/4 Road, depending on any paying passengers. If there are none, then the train waits in either No 3 or No 4 Roads until passengers arrive.

At about 12.45 the first paying passengers are arriving and the first Driver and Guard are getting ready for the train. After the Station Master gives the ok, passengers are loaded and the train fills up. The speed this takes depends upon how big the crowd is, mostly pretty fast. When the train is loaded, the Station Master collects the tickets from the passengers. Depending upon the signal (if green or amber), the Station Master gives the signal to the Guard for the train to depart. The Guard blows his whistle and shows the green flag meaning 'proceed' and the Driver replies by blowing his whistle. Once the train is moving, the Guard shows the green flag to the Driver, who again replies, meaning the train can speed up.

An overall view of Niana Station (from the south end). The trains finish their trips around the track at this spot and then proceed to the Departure platforms for their next trip.

The train proceeds through Hume Tunnel, across Stanbridge (a girder bridge 90' long), then across Ferntree Bridge (30' long), past Penrhyn Signal, across Squatter's Bridge and into Canning Junction Railway Station. Depending on the Driver, the train will either just go through Honiton Cutting or first travel on the Convention Line and then the Cutting Line. The train may also travel around the Convention Line in the opposite direction. After Canning Junction, the train proceeds past the Level Crossing Lights, through Wormhil Tunnel and into either No 1 or No 3/4 Roads of Niana Junction Railway Station. The Guard then calls out to the passengers to leave the train for the next load of passengers.

By about 16.45 the crowd has nearly finished, sometimes no more passengers. It is now time to start picking up the Signals, Staffs and Telephones distributed earlier around the track. At about 17.00 the last train, 'The Signals and Workers Special', departs from Niana Junction Railway Station and proceeds to pick up all of the equipment and the Staff from Canning Junction Railway Station. This Staff comprising of a Signal Man and a Station Assistant.

By 17.15 all of the equipment has been locked away and most of the members have a quick chat in the Clubrooms before taking to their rubber tyred variety of 0.4.0 and setting their points and signals for home.

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THE W.A. BRANCH'S 1980 OPEN

MODELLING COMPETITION

The judging of our 'open' Railway Modelling Competition took place on Saturday 31 May, and as was the case last year, the judges had a very difficult job in evaluating all the entries.

There was a competition in five of the possible nine categories with 13 entrants entering 24 models compared to 11 entrants entering 35 models in 1979.

The trophy for the Best Model of a Western Australian prototype went to Gavin Stallard for his model of the BE Cattle Wagon in Sn3½ scale.

Due to the lack of entries by juniors (only one), it was decided to award the Ossie Gully Cup to the Best Model in the Competition, and so Mrs Gully presented the cup to Gavin Stallard for his BE Class Cattle Wagon. This was a fitting result, for not only did Gavin know Ossie Gully well, but is also a junior member. Below are photographs and descriptions of all the winning entries, and many of the other entries in the competition.

CATEGORY 1 RTR MODIFIED LOCOS

Best; Freelance MOW Vehicle by
Craig Hartman Photos 1 and 2

Photo 1

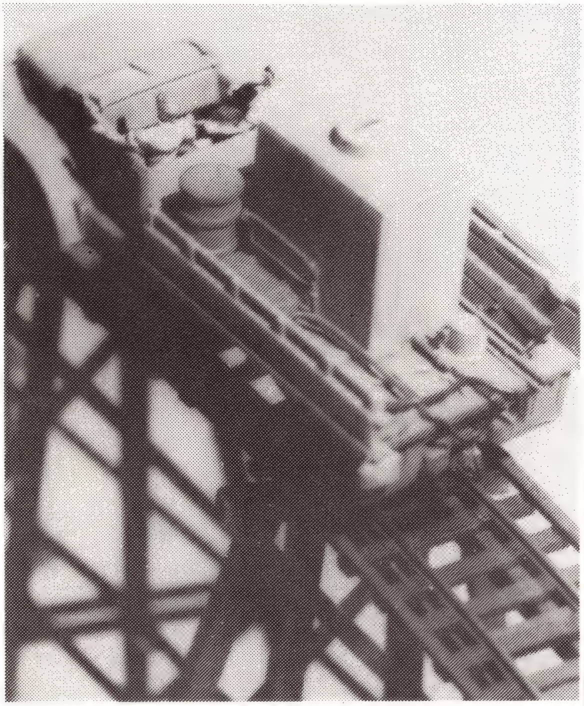

Photo 2

HOn3 Maintenance of Way Vehicle by Craig Hartman

The idea of this vehicle came from an article on prototype and modelling of prototype MOW Vehicles.

This particular vehicle is a freelance interpretation of what could have operated on the Narrow Gauge line in North America in the 1930s to 1950s.

The vehicle was made using the Mini Tanks, 6 x 6 lorry, and the drive unit from an N Gauge Bachman 0-4-0 Southern Pacific Tank loco. The truck was carefully taken apart, all evidence of road suspension and conventional road axles were removed then the chassis was modified to support the Bachman motor and a bogie support at the front. The engine cowling and cab unit remained intact, except for the roof detail which was removed. The tray was then modified by removing a square from the centre of the floor and construction from 20 thou styrene a square tank to conceal the motor. The motor drives directly onto the rear axle with electrical pickups on one side of both the rear and front axles. The front truck unit being a Grandt line arch bar truck and the rear axle being a mixture of 00 wheels and axles with the Bachman worm gear.

The complete vehicle is sprayed Humbrol signal yellow with the tank and underframe weathered simulating heavy rust, grime and water stains. The detailing parts came from various kits and the tools which are cast white metal from the Westside HOn3 No 8 three truck Shay.

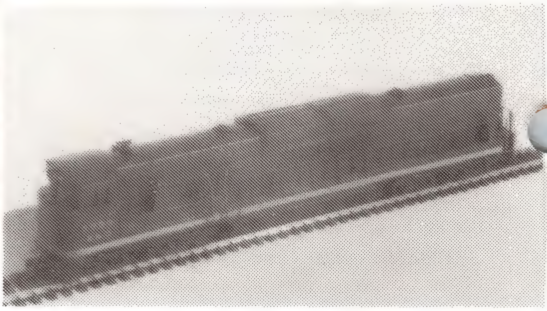

Photo No 3
GE V50C by Tony Gray, built from two Bachman Diesel Bodies in HO Scale

CATEGORY 2 SCRATCH BUILT ROLLING STOCK

Best; WAGR BE Class Cattle Wagon by Gavin Stallard

Photo 4

A model of a WAGR BE Class four wheel cattle wagon in Sn3½ scale. This mostly scratch built wagon has bought wheels and axle guards and is constructed primarily of styrene. The extensive detailing includes cribbing and straw on the floor, underbody detailing with brake piping and rigging, brake shoes and even scratch built working chopper couplings. The model was finished with Airfix and Humbrol paints, Walthers decals and a weathered appearance.

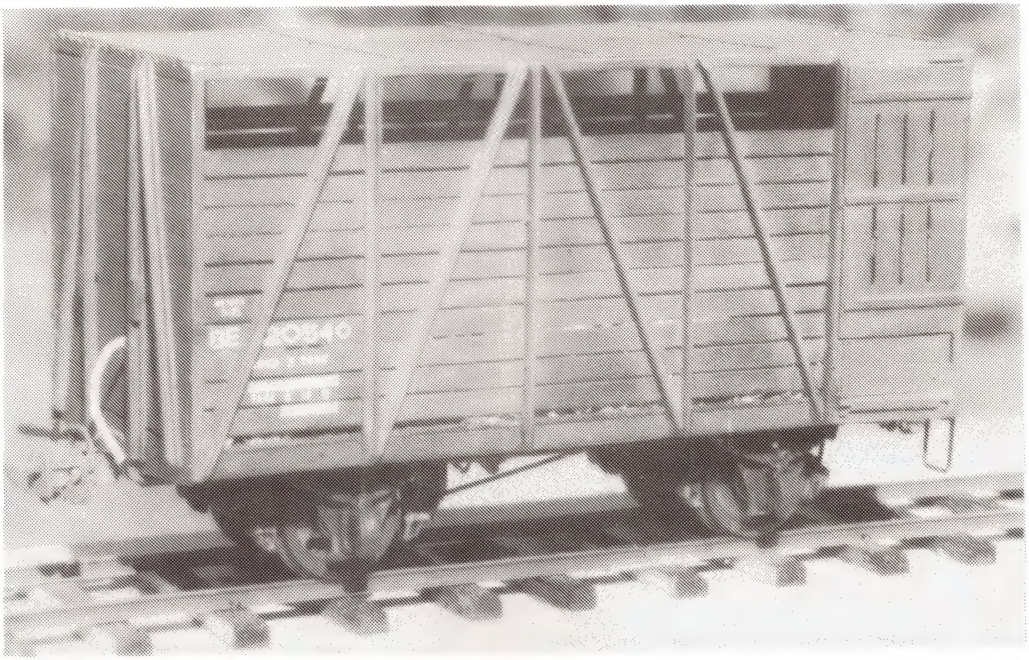

Photo 4
A model of a WAGR BE Class four wheel cattle wagon in Sn3½ scale.

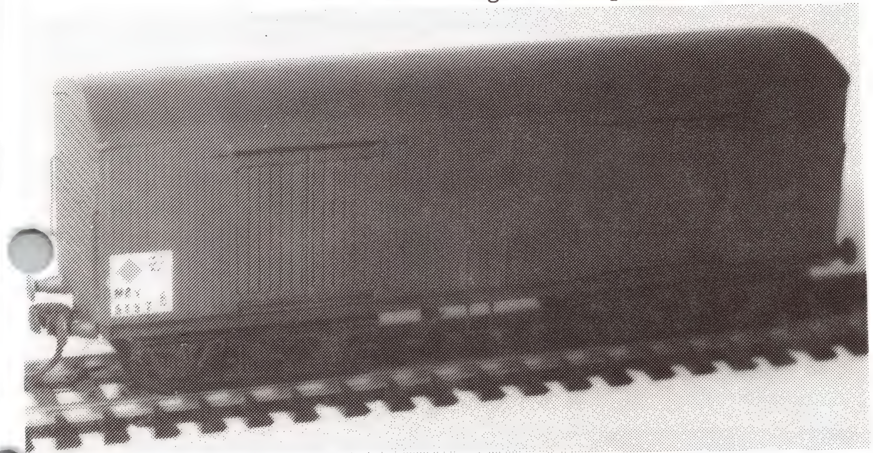

Photo 5

'AO' MCV (NSWGR) BOGIE BOX VAN

by Les Hayter

This model was attempted after reading an article which appeared in the AMRA Nov/Dec 1978. It was my first attempt to build a wagon from scratch and was some 12 months in the making. Waiting for parts and other delays caused this to take longer than I had intended. Built of NE Timber scribed sheathing, Slaters plasticard and rivet sheeting, balsa roof piece, staples and old buffers of Lima Wagon, mounted on P.M.H., 2AA bogies and fitted with Kadee No 5 couplers. I painted it in

Floquil grimy black and lettered it with MnJ decals and Letraset on white paper, and added the red paper diamonds as per the article. The finished wagon seems to run quite well, but not having a layout means that it hasn't really been run in properly. The one basic difference between this model and that which appeared in the article is that mine is constructed around a solid block of very light timber, with allowances made for wall thickness and the corner posts. A relatively easy model to construct using this method or the one as per article for almost any modeller, and it doesn't really take 12 months.

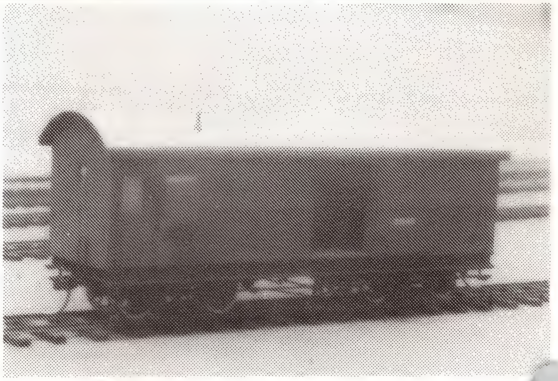

Photo 6

WAGR Z CLASS BRAKE VAN

by Richard Stallard

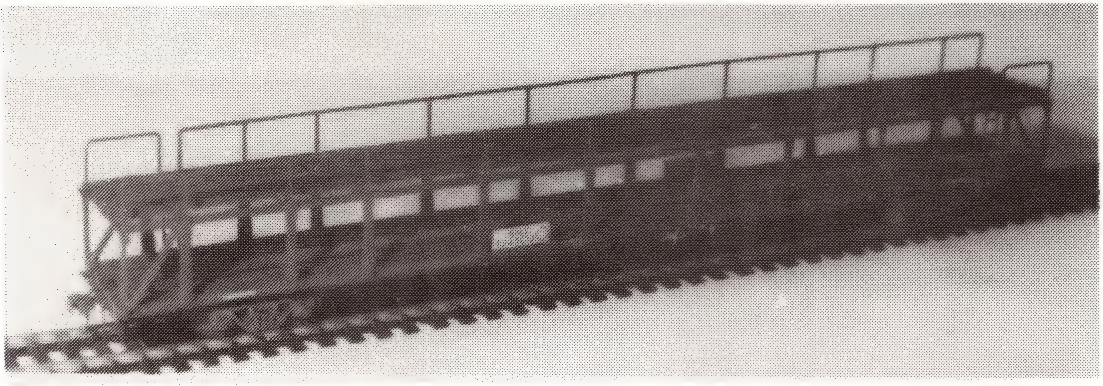

Photo 7

NSWPTC BNX CLASS WAGON

A scratch build model in HO scale of a NSWPTC BNX class motor vehicle transport wagon. This mostly styrene wagon features see through mesh walkways on the top deck with railings that have been super glued together out of brass wire. The model was lettered with Letraset dry transfers and Walthers decals then weathered a dusty red colour to give the appearance of travels across the Nullabor Plain.

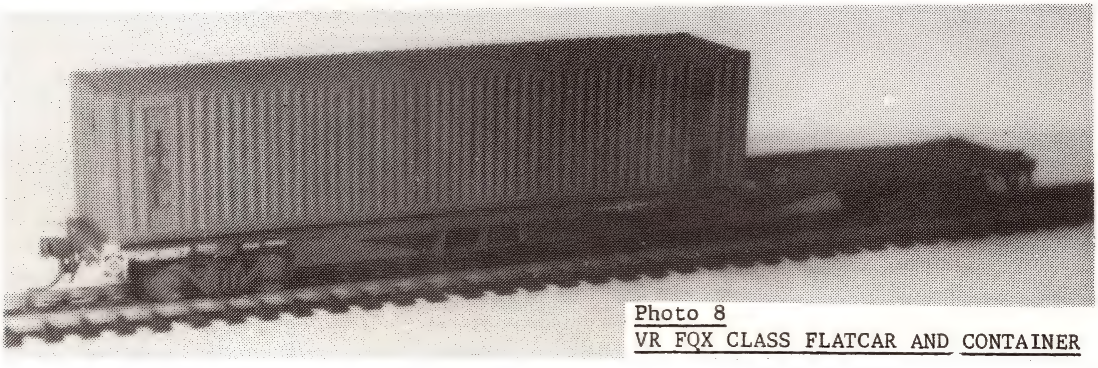

Photo 8

VR FQX CLASS FLATCAR AND CONTAINER

Photo 8

VR FQX CLASS FLATCAR AND CONTAINER

Both the Victorian Railways FQX flatcar and the ITEL container were scratch built entirely out of styrene. The lettering was pieced together from Walthers decals and includes lettering on the bogies. The model is HO scale.

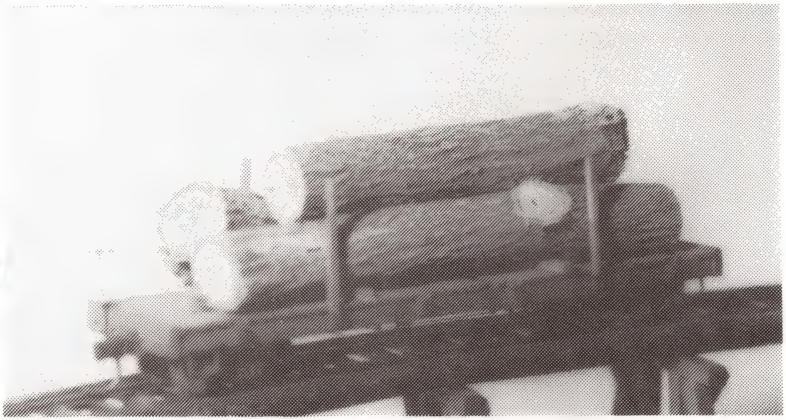

Photo 9

CATEGORY 3 KIT BUILT ROLLING STOCK

Best; Kit Built Rolling Stock
HOn3 30' Flat Car
by Simon Mead

Photo 9

This flat car, typical of many used by the 3' gauge railroads of North America, was built from a 'Scotia Scale Models' kit. These kits consist of stripwood cut to size and a set of plastic mouldings for the detail com-

The model has been fitted with Kadee couplers and Kemtron brass HOn3 bogies. After assembly, and the removal of several planks from the deck to improve the 'weathered' effect, the car was painted and weathered with an airbrush.

The load of logs is removable and is held securely onto the flat car by the stakes, which are fixed to the logs and slide into the stake pockets along the side of the car. The logs were cut from a Hibiscus bush, in order to simulate sawn timber. The logs rest on a block of wood near each end, as would have been the case on the prototype to allow chains to be placed under the logs when loading and unloading the wagon.

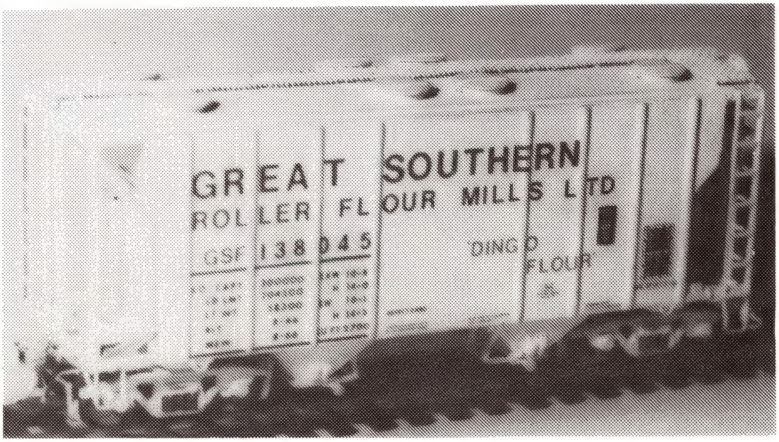

Photo 10
PULLMAN 100 TON COVERED HOPPER

by Gavin Stallard

Photo 10

PULLMAN 100 TON COVERED HOPPER

by Gavin Stallard

Quality Craft's 1979 prestige craftsman kit was assembled into a super detailed model of a 100 ton covered hopper. The hypothetical paint scheme was achieved with Walthers decals and Letraset. Great Southern Roller Flour Mills Ltd do exist in WA, but they don't own any railway wagons, and they would never own one like this.

Photo 11

D & RGW BAGGAGE CAR

by Simon Mead

CATEGORY 4 SCRATCH BUILT STRUCTURES

Best; 'AO' Planning and Woodworking Mill by Frank Godde

Photos 12 and 13

Along with the actual saw mills in Pennsylvania mill towns of the early 1900s, there were usually associated industries which made everything from barrel staves to acetic acid to bundles of fire wood. Among this group of wood product industries was the planing mill.

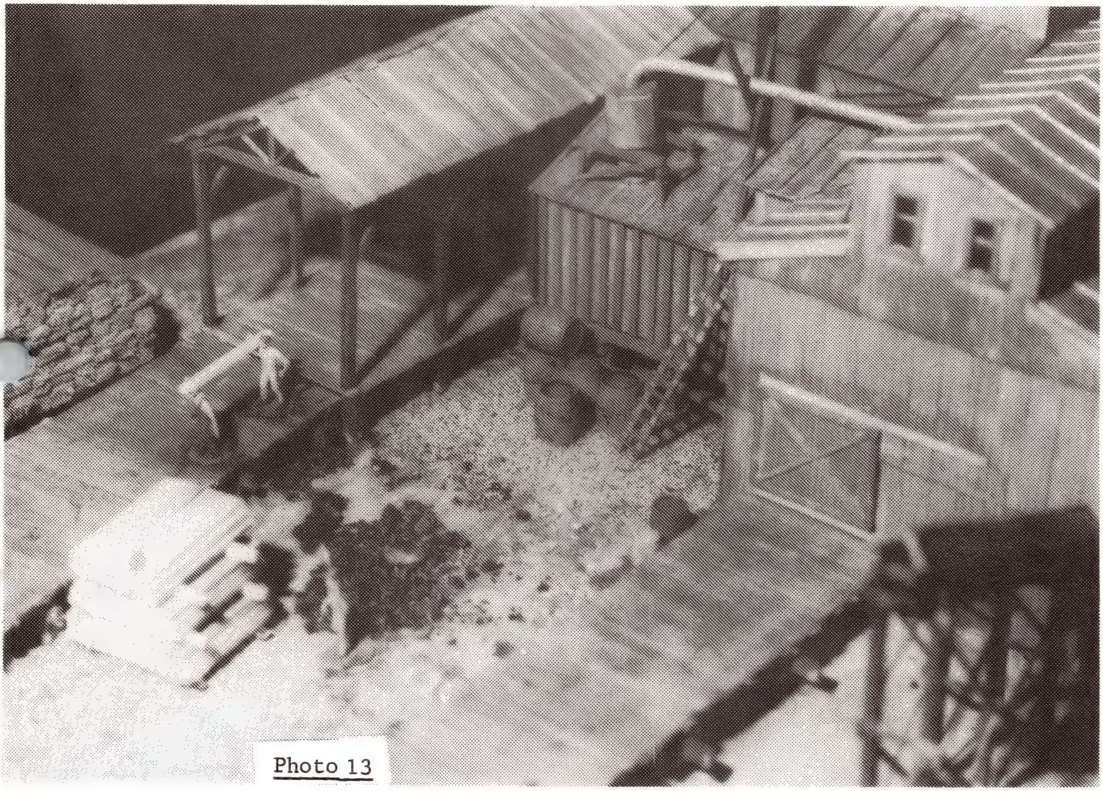

Photo 13

The model was constructed of pieces of wood from an Asian calendar which were glued onto a timber frame, thus forming the walls; all other timber used was cut from a piece of redwood and planed down to scale. A drink straw for smoke stack and aluminium wire for piping.

The roof support was cardboard with one layer of toilet paper glued onto it, finely cut strips on calendar acting as cover battens.

The whole structure was painted with a water colour wash.

To add my personal touch I also included a conveyor belt, boiler system and bundles of rough sawn timber. To top it off, I found it fitting to add an outside toilet, as I had the office manager running in haste and to where else, but there!

Photo 14

A GREAT WESTERN RAILWAY COALING STAGE AND WATER TOWER

by Ted Thoday

The model is based on the standard GWR design, modified very slightly to fit into the 'Sumwear' MPD. The building and ramp were constructed around plywood formers which gave the basic outline and strength to the model. The interior and exterior walls of the building were made up from various types of Slaters plasticard, built up in layers to give the impression of the heavy brick built construction of the prototype. The water tower section is 0.006" plasticard with 0.005" plasticard overlays for the plate joiners, rivetted with a dressmaker's 'star' wheel. Interior floors are planked and the various supporting beams inside the building have been modelled, the coaling deck has a fully fitted interior, including skip, coal and crew. The building is illuminated inside and out with GOR bulbs in shades, power being fed from the mess/tool hut (grounded coach body) via the telephone wires. The grounded body houses a voltage regulator, which has been modified to supply a constant 7 V, d.c. up to 1.4 A from any a.c. supply up to 35 V. The telegraph poles are by ratio, the telephone wires are 36 SWG shellacked copper coil winding wire. The earth works ar covered in Ted's patent 'gunge', mixture of coloured tile grouting, polyfilla and water based paints, with a few drops of Aquadhere and washing up liquid. Precision paints were used for the building, applied with an airbrush.

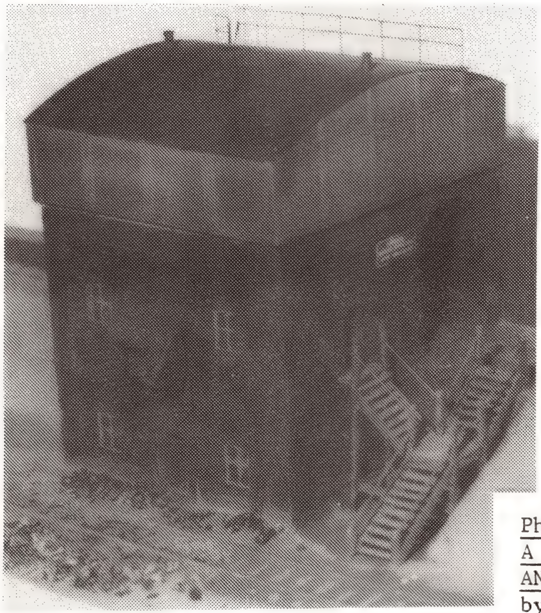

Photo 14
A GREAT WESTERN RAILWAY COALING STAGE AND WATER TOWER
by Ted Thoday

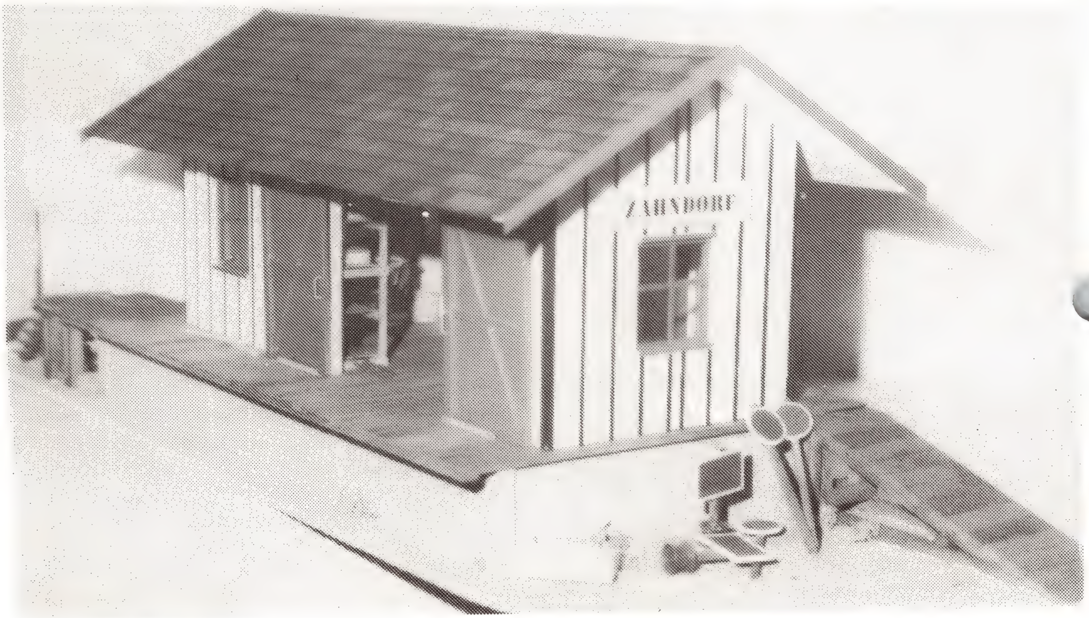

Photo 15
LGB FREELANCE GOODS SHED
by Dick Stein

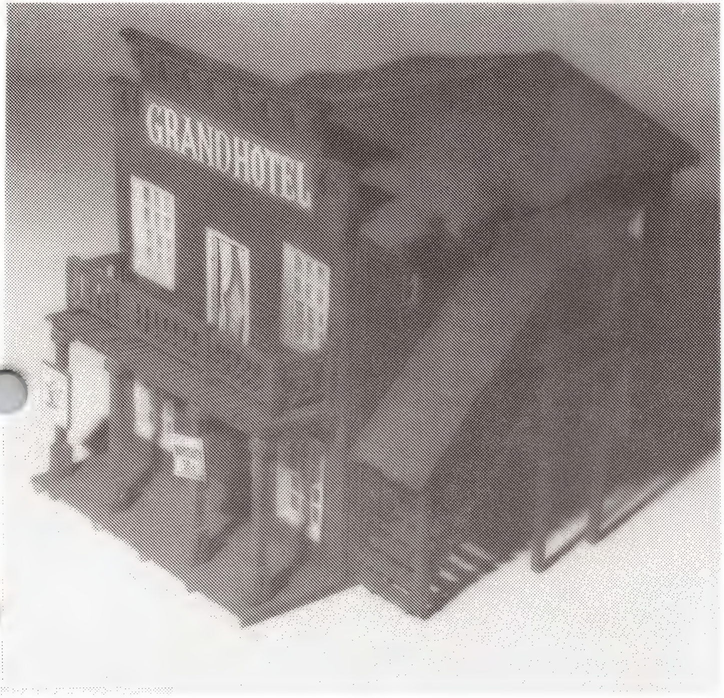

Photo 16
HO FREELANCE HOTEL
by Craig Hartman

GRAND HOTEL

The Hotel is based on the Kibri 3 in 1 kit containing a Hotel, Doctor and Barber buildings.

From this kit only the facade and side stairs remained as the rest of the Hotel components had been used to make a station building.

Realising I wanted the Hotel and by using the rubberised material from car batteries (battery board) I found that this material gave a good representation of timber planking and corrugated iron.

Using the instruction sheet from the Kibri kit as a guide I proceeded to mark out new wall and roof components. For the roof (corrugated iron) I selected the worst piece that I could find. Bear contact cement was ideal for bonding this material. The windows and doors for this building came from various kits including N Gauge. The building was sprayed using a mixture of brown and red Poly - S paint with the roof painted dark grey and heavily rusted. Ordinary kitchen aluminium foil was used to cover the join in the roof after being pressed to simulate corrugated iron.

CATEGORY 5 KIT BUILT STRUCTURES

Best; Hauptbanhof Bergheim
(Bergheim Central Railway Station)
by Maureen Williams

Photo 17

This station is the centre piece of the Williams N Gauge layout. The original kit, Herpa B610, contains three separate buildings which have been modified to suit our requirements. Extra exterior walls and flooring were added to produce rooms, hallways and shops and on the left hand portion, the entire top 'floor' was turned around and recessed to allow the addition of a balcony. The frosted glass windows were replaced with clear glass to allow the interior detail to be clearly seen.

Interior walls have been either painted or wall papered and carpet applied to the floors. A full mirror wall was added to the centre ticket office for further effect. Paintings on the walls were cut from catalogues and careful placement of globes, including home made light fittings show these up.

Landscaping on the outside further enhances the building with the addition of flower beds, shrubs and trees. Coke and Pepsi and cigarette vending machines are on the platform for the convenience of patrons.

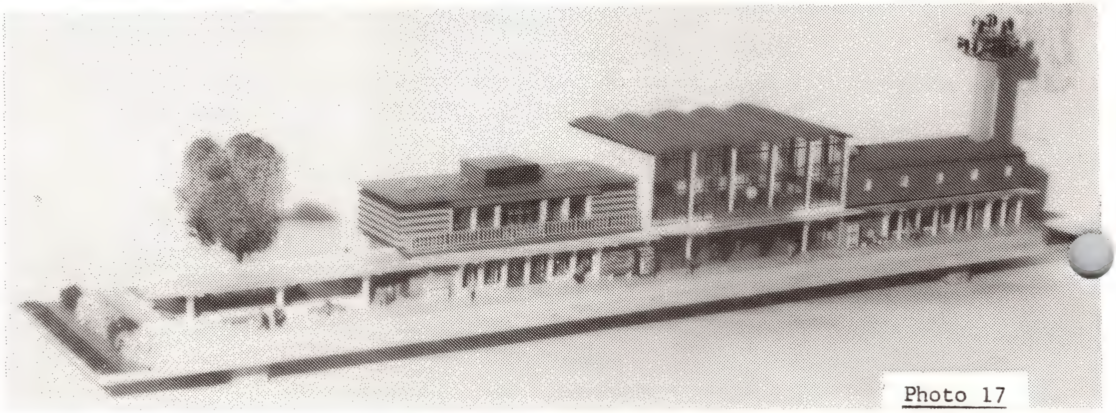

Photo 17

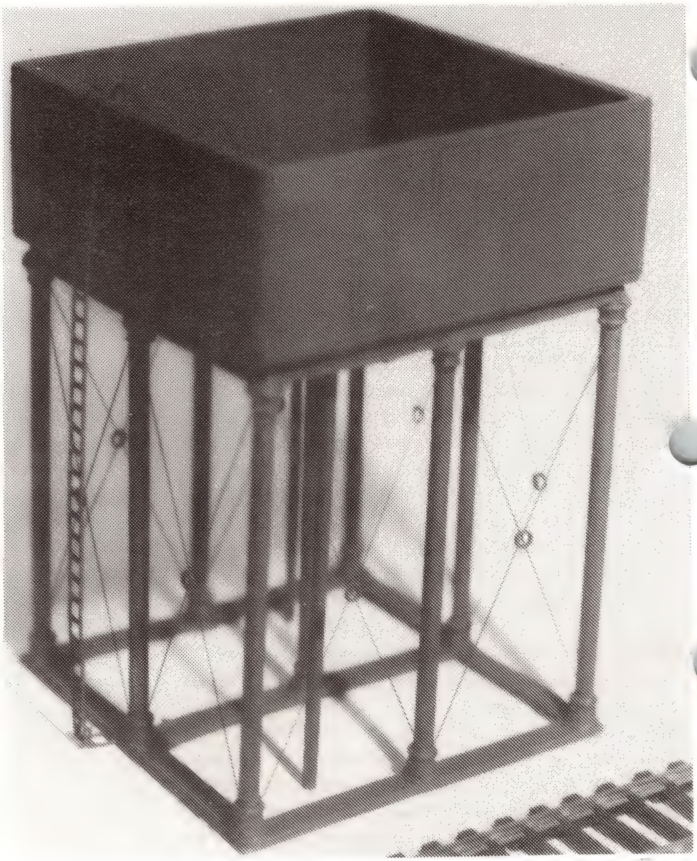

Photo 18
SARMOD : SOUTH AUSTRALIAN RAILWAYS CAST IRON WATER TOWER
by L Hayter

Photo 18

SARMOD : SOUTH AUSTRALIAN RAILWAYS CAST IRON WATER TOWER

by L Hayter

An HO scale model as advertised in the recent March/April 1980 AMRM. Castings of fair quality in epoxy resin and prepainted a grimy black colour. The kit came complete with plastruct columns, fishing line for cross bracing and all necessary castings, plus a length of brass ladder. It was a relatively easy job to sort out the parts and assemble, and the finished product needs only a little more original touching up to be appropriate for any Australian layout. Note that the base would be attached to the baseboard and some form of scatter material would cover the base footings.

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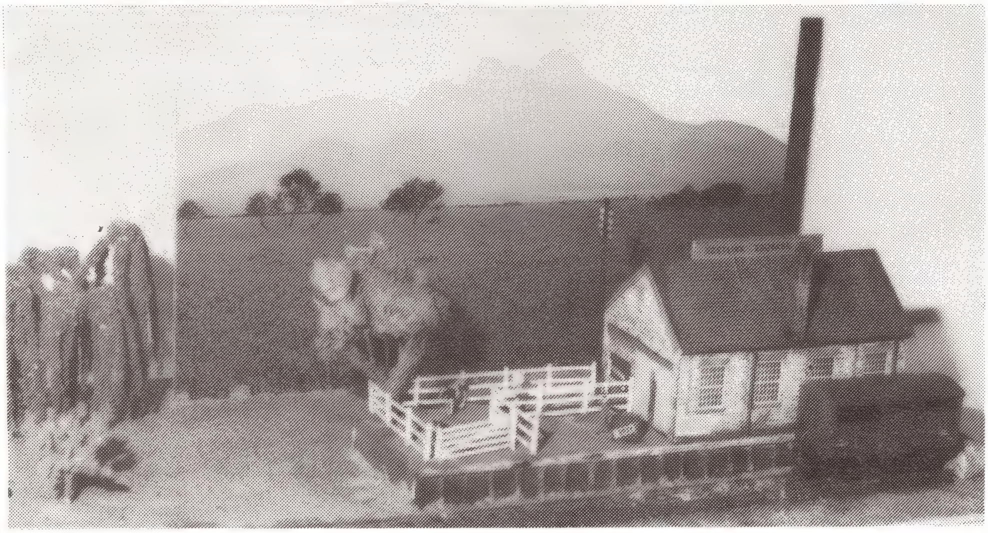

Photo 19

'OO' FREELANCE SAUSAGE FACTORY

by George Bristow

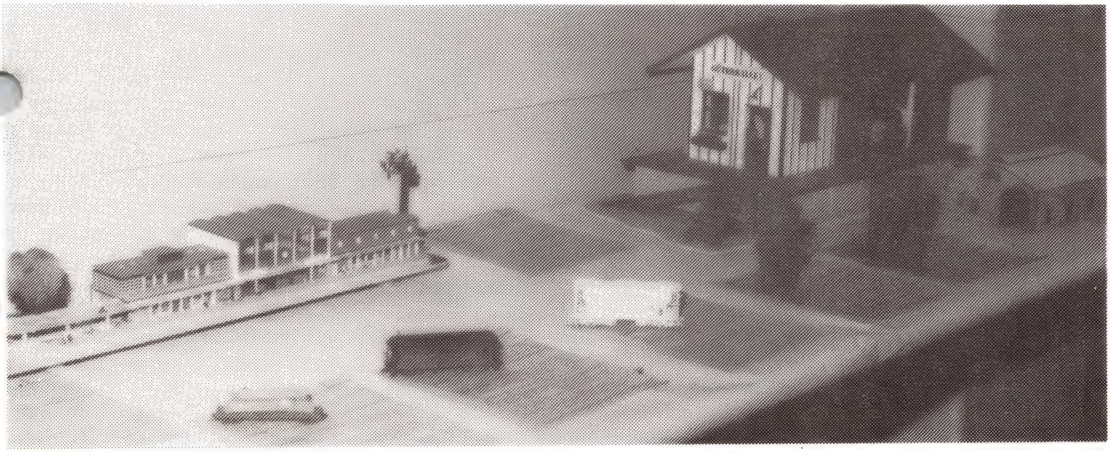

Photo 20

Some of the models on display after the judging.

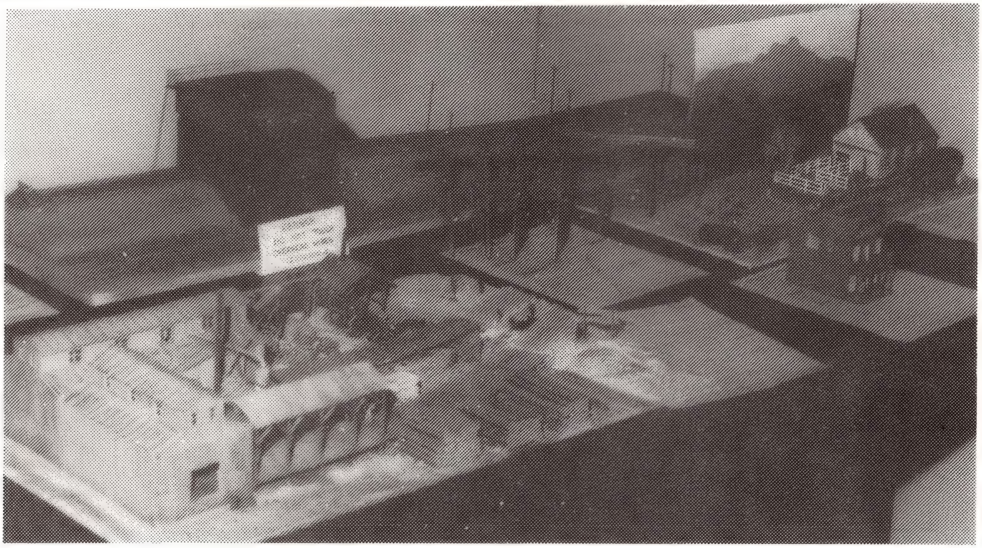

Photo 21
More entries on display.

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THE POP VALVE!

FOR READER'S LETTERS

The Editor
Dear Rex

As one of the Branch Reporters referred to by Gordon Duncan in Pop Valve in the April-June 1980 edition of Journal, I feel I should offer a few words of explanation of the Branch Notes submitted on behalf of the Western Australian Branch.

There is, or at least there was, a deadline for Branch Notes which was about two months before the publication of the particular issue, if it was published on time. As few Journals have been published on time for a couple of years now, it has been almost impossible to write meaningful Branch Notes.

This was one of the reasons for the WA Branch producing its own news letter 'The Branch Line' which is issued to WA members every two months. Since its inception in March 1977, a copy of every Branch Line has been sent to the Editor of the Journal and he has extracted from it the items that have appeared as 'Branch Notes' since then.

As to location maps - I feel there is a good case for the continued publication of our location map, as Maltham Station, where our club rooms are situated, is in fact in the suburb of Bayswater, as there is no suburb of Maltham, and as such does not rate a mention in the Perth Metropolitan Street Directory, thus making the station very difficult to find for any visitor, especially visitors from interstate, despite the fact that there are very few of them.

In closing, could I urge any AMRA members who are visiting Perth to make use of information at the head of our Branch Notes, and give us a visit -

you'll be most welcome.

Graham Watson

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The Editor
Dear Rex

The January-March issue of Journal arrived a few days ago and I must congratulate all and sundry on a good job, especially the photographs. I read it all, including, for Norm Read's information, the Secretary's page!

However, I have a bone to pick with someone. In my article on 'Writing for Journal', at the end of paragraph 3, the word 'GULLIBLE' should read 'FALLIBLE'; no need, I'm sure, to enlighten you on the different implications of the two words!

And, by the way, the loco pictured on the front cover is not, as the caption states, a 50 class, but a 55 class (ex K), recognisable by the raised centre section of the footplates over the Southern valve motion.

On my next spate of literary activity (if any), I may produce something for you, so keep your fingers crossed.

Yours sincerely

Jack Martain

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MANCHESTER TO LIVERPOOL

By 'Lancastrian'

Reprinted from A.M.R.A. Journal No 30
November 1958

To most people, the mention of the fifteenth day of September 1830 would convey no significance whatever. Yet it has a greater claim to be remembered than most of the national days which are celebrated so raviously every year. For on that day, the Liverpool and Manchester Railway was opened, and the event marked a turning point, in the greatest revolution in land transport since the invention of the wheel, nearly five thousand years before.

Like most great revolutions, it was not born in a day, nor in the mind of one man, but was the result of ideas and efforts stretching over the previous two hundred years or more. As far back as the reign of Elizabeth 1, colliery owners had set out to solve the problem of conveying their coal from pithead to waterside by laying parallel lines of wooden planks to carry the wheels of their wagons. These 'plateways', as they were called, were developed during the succeeding two centuries until, in the latter part of the eighteenth century, they began to give place to 'edgeways' or true railways, first of wood, later of iron. Meanwhile other men were experimenting with steam power, and in 1769 James Watt, following up the work of Newcomen, Papin and many others, patented the first really practical and economical steam engine. The success of the stationary engine was followed by efforts to produce a mobile engine, capable of moving under its own power. In 1802 Richard Trevithick placed the first steam locomotive on rails at the Merthyr Tydvil colliery, in South Wales, and eleven years later, Hedley built the famous 'Puffing Billy' for a northern colliery,

Their efforts inspired a young selftaught mechanic from Killingworth to try his hand. His name was George Stephenson, and he built a number of successful engines for the Killingworth Colliery, and a railway for the Hetton Colliery. In 1825 the first public railway was opened, between the towns of Stockton and Darlington, in Durham. Stephenson took a leading part in the work, and his faith in the steam locomotive so impressed the chairman of directors, Mr Pease, that the latter not only persuaded the company to try steam power, but also went into partnership with Stephenson to enable him to set up a locomotive factory under the firm name of Stephenson & Co. In that factory were built the engines which fought out the fight between horsepower and steam power, on the rails of the Stockton and Darlington Railway. Many and bitter were the struggles and disappointments, but steam triumphed.

The town of Manchester, even in the 1820s, was renowned as a great centre of cotton manufacture. It stands on the bank of the River Irwell, a tributary of the Mersey, on the estuary of which is the port of Liverpool. Commerce between the two towns was carried on the waters of the Mersey and Irwell, as well as on those of the famous Bridgewater Canal. But, for some reason, the system was unsatisfactory. Great delays occurred in the transit of raw cotton and finished goods, and, more than once, the Manchester mills were forced to close down, for want of the cotton which was stacked on the Liverpool Wharves. Disgusted with this state of affairs, the Manchester millowners put their proverbially hard heads together, and from their deliberations was born the Liverpool and Manchester Railway Company, with a plan to build a double line of railway between the two towns.

The scheme met with tremendous and powerful opposition from the local landowners, headed by the Earl of Derby and Lord Sefton. George Stephenson and his son Robert took a leading part in the initial survey, and every effort, short of murder, was made to intimidate them and force them to abandon the work. But north-country persistence and pigheadedness, aided, no doubt, by some trickery and strategy, won the day, and the route was surveyed.

The next stage was to obtain the consent of Parliament, and here the opponents of the railway really got down to business. All the leading legal and engineering brains of the country were arraigned on the side of conservatism and some startling, and to modern eyes, ridiculous charges were made against the proposed railway, a the steam locomotives which were to be tried out on it. Stephenson was grilled in the witness box for three days and his practical experience and commonsense went for nothing against the wit and shrewdness of his opponents. Eventually the bill was withdrawn, but it was presented again the following year and passed by a narrow majority. It may be an indication of the state of British politics in those days that the passage of the bill cost the company no less than £27 000!

Human opposition having been overcome, the next battle was against the country along the proposed route. If best results were to be obtained, the line must be kept substantially level. This entailed a vast amount of work. A tunnel 1½ miles long was bored under the town of Liverpool; a viaduct consisting of nine arches each of fift feet span was built across the Sanke Valley, and a cutting two miles long and over a hundred feet deep was cut through the solid rock of the Olive Mount. In addition, sixty-three bridges were built, either under or over the line. But the greatest obstacle of all was Chat Moss, a peat bog, formed by the accumulation of quantities of water and vegetable matter in an impervious hollow of the moorland. It was several square miles in area, of unknown depth, and so unstable that it was dangerous for anyone to attempt to walk on it unless wooden boards, similar to snowshoes, were first strapped to their feet, and it stood squarely in the line of the railway. The problem was solved at the Liverpool end by making a floating road of light materials which was sufficiently broad to support the weight of the track and trains just as the wooden 'pattens' supported the weight of men and horses. At the Manchester end, however, a raised embankment was necessary, and the floating road idea would not do. For weeks on end the workmen poured a vast accumulation of material into the bog, only to see each load disappear as quickly and completely the last. Even when, after a day's work, some progress seemed to have been made, the road had gone again by next morning. But north-country persistence won the day, and the embankment was eventually raised, and joined to the floating road.

Meanwhile, the directors had been discussing the problem of motive power. The original idea was to use horses but steam power had been promised a fair trial. The question was whether to use locomotive engines or stationary engines and cables, as had been done elsewhere. Eventually a prize of £500 was offered for the most satisfactory design of a locomotive engine. The conditions were that the weight should not exceed six tons, that the engine should pull a load of twenty tons at ten miles per hour, and that it should 'consume its own smoke'. Several leading engineers entered the competition, including the Stephensons, father and son. Robert was now in charge of the locomotive works and he and his father put their heads together to design the best engines that the theory of one and the practical experience of the other could devise.

The result was the famous 'Rocket', To modern eyes it appears as just another of the line of freakish experiments, but it actually contained the three principles on which successful locomotive practice has been based ever since. These were the multi-tubular boiler with water surrounded fire box, the 'steam blast' by which the exhaust steam directed up the chimney to stimulate the draught, and the direct connection between pistons and wheels without intermediate gearing. In form, the engine was a 0-2-2 of 4½ tons weight, with two cylinders, each 8" by 7", mounted in an inclined position, high up at the rear end of the boiler. In a subsequent rebuilding, however, they were lowered to a horizontal position, level with the footplate.

The tests were held in 1829 on the metals of the Liverpool and Manchester Railway at Rainhill, about midway between the two terminal towns. The four competing engines were tried out on separate days, the 'Rocket' being given first go. She astonished the numerous spectators by performing her allotted task at a much higher speed than was required. On succeeding days, the rival engines were tried but all failed, either from overweight or mechanical breakdown. As a result, Stephenson and Co were commissioned to build several other locomotives.

As the date of opening approached, public interest rose high. The company was obliged to construct stout paling fences along the edges of the cuttings, to prevent the eager spectators from falling over. On the great day huge crowds of people lined the track and Constables and Soldiers were employed to keep the lines clear. The Duke of Wellington, then Prime Minister of England, attended in a specially constructed private coach drawn up on one line, whence he had a grandstand view of the procession of eight trains each headed by a Stephenson locomotive. The three leading engines were driven by members of the Stephenson family; the 'Northumbrian' by George, the 'Pheonix' by Robert and the 'North Star' by Robert Senior, brother of George. The day was a triumph, marred only by a sad accident. Mr Huskisson, a member of Parliament for Liverpool who had been an ardent supporter of the railway, was knocked down and run over by the 'Rocket' while talking to the Duke of Wellington. He died that night.

The new railway proved a great success, though not quite in the way that the directors anticipated. They had looked to freight carriage as the principal source of revenue. Instead they found themselves obliged to cater for ever-increasing numbers of passengers. From then on, the success of the steam railway was assured. Inside the next twenty years, a network of railways spread over Britian, while America, France and other countries also adopted the new form of transport. The main principles of locomotive layout were settled within 10 years, while speed records were broken almost every week.

The subsequent history of the Liverpool and Manchester Railway is interesting. In 1845 it amalgamated with the Grand Junction Railway which connected Manchester with Birmingham. In the following year the Grand Junction and the London and Birmingham Railways were amalgamated under the name of the London and North Western Railway, which later extended to Carlisle, and formed, in combination with the Caledonian Railway, the famous 'West Coast' route to Scotland. In 1922 the L.N.W.R. amalgamated with the Lancashire and Yorkshire, and in the following year, that of the great 're-grouping', it became a part of the London Midland and Scottish Railway. The latter is now, of course, a part of the nationalised British Railways. 'Big oaks from little acorns grow', says the proverb, but from t acorn planted on 15 September, 1830 sprang, not one, but many oaks, spreading their branches over the whole civilised world.

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A.M.R.A.

VIC. BRANCH

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